

What is claimed is:

1. A self-expanding stent delivery assembly comprising:
a shaft having a distal region and a longitudinal axis;
a retractable sheath having a proximal end and a distal end, the retractable co-axially disposed around at least the shaft distal region;
a stent disposed co-axially between the shaft and the retractable sheath in the distal region; and
a tubular tapered tip affixed to the retractable sheath distal end, the tubular tapered tip having an elongate region predisposed to fracturing.
2. The self-expanding stent delivery assembly according to claim 1, wherein the tubular tapered tip has a plurality of elongate regions predisposed to fracturing where each elongate region predisposed to fracturing is co-planar with the longitudinal axis.
3. The self-expanding stent delivery assembly according to claim 1, wherein the elongate region predisposed to fracturing is a line of perforations.
4. The self-expanding stent delivery assembly according to claim 1, wherein the tubular tip has a first thickness and the elongate region predisposed to fracturing has a second thickness that is less than the first thickness.
5. The self-expanding stent delivery assembly according to claim 1, wherein the tubular tip is formed of a first material having a first tensile strength and the elongate

region predisposed to fracturing is formed of a second material having a second tensile strength that is less than the first tensile strength.

6. The self-expanding stent delivery assembly according to claim 1, further comprising a guidewire disposed within the shaft lumen.

7. The self-expanding stent delivery assembly according to claim 6, wherein the tubular tip has a distal end defining a tip opening, the tip opening sized and configured to surround the guidewire.

8. The self-expanding stent delivery assembly according to claim 1, wherein the tubular tip has a proximal waist portion bonded to the distal end of the retractable shaft.

9. The self-expanding stent delivery assembly according to claim 8, wherein the tubular tip waist portion is bonded to the outer surface of the retractable shaft.

10. The self-expanding stent delivery assembly according to claim 1, wherein the tubular tip is integrally bonded to or integrally formed with the retractable sheath distal end forming a continuous smooth outer surface across the tubular tip and retractable sleeve.

11. A method of delivering a self-expanding stent comprising:

placing a stent delivery device at a target site, the stent delivery device comprising:

a shaft having a distal region and a longitudinal axis;

a retractable sheath having a proximal end and a distal end, the retractable sheath co-axially disposed around the shaft distal region;

a stent disposed co-axially between the shaft and the retractable sheath in the distal region; and

a tubular tapered tip affixed to the retractable sheath distal end, the tubular tapered tip having an elongate region predisposed to fracturing;

deploying the stent at the target site by retracting the retractable sheath or advancing the stent and fracturing the elongate region predisposed to fracturing; and

removing the stent delivery device from the target site.

12. The method according to claim 11, wherein the step of deploying the stent at the target site comprises deploying the stent at the target site by retracting the retractable sheath or advancing the stent and fracturing the elongate region predisposed to fracturing as the stent passes through the tubular tip.

13. The method according to claim 11, wherein the tubular tapered tip has a plurality of elongate regions predisposed to fracturing and the step of deploying the stent at the target site comprises retracting the retractable sheath or advancing the stent and fracturing the plurality of elongate regions predisposed to fracturing.

14. The method according to claim 13, wherein the step of deploying the stent at the target site comprises deploying the stent at the target site by retracting the retractable sheath or advancing the stent and fracturing the plurality of elongate regions predisposed to fracturing as the stent passes through the tubular tip.

15. The method according to claim 11, wherein the stent passes through the tubular tip during deployment and the tubular tip is integrally bonded to or integrally formed with the retractable sheath distal end forming a continuous smooth outer surface across the tubular tip and retractable sleeve.

16. The method according to claim 11, further comprising the step of placing a guidewire across the target site prior to placing the stent delivery device at the target site.

17. The method according to claim 16, wherein the step of placing a guidewire across the target site prior to placing the stent delivery device at the target site comprises providing a tubular tip having a distal end defining a tip opening, the tip opening sized and configured to surround the guidewire.

18. The method according to claim 17, wherein the step of placing a guidewire across the target site prior to placing the stent delivery device at the target site comprises providing a tubular tip having a distal end defining a tip opening, the tubular tip having a proximal waist portion bonded to the distal end of the retractable shaft.

19. The method according to claim 16, wherein the step of placing a guidewire across the target site prior to placing the stent delivery device at the target site further comprises using the guidewire to place the stent delivery device at the target site.